EVIDENCE OF RELATIONSHIP BETWEEN $X=9$ AND $X=7$ GROUPS OF *PENNISETUM* SPECIES AT INTRASPECIFIC LEVEL

The genus *Pennisetum* is a polybasic one comprising of species with chromosome numbers as multiples of 5, 7, 8 and 9. Majority of the species having the multiples of 7 and 9, there has been a debate as to the relationship of the two.

Gildenhuys and Brix (1961) from a cross of *P. typhoides* ($X=7$) and *P. dubium* ($X=9$) obtained a rare gamete in the hybrid ($2n=21$) with $X=7$ chromosomes and pointed out the affinity of the two basic groups. The affinity between these two groups has been further confirmed by the cytological behaviour of the hybrids *P. typhoides* × *P. purpureum* (1966, 1968, 1972); (*P. typhoides* × *P. purpureum*) × *P. squamulatum* (1972) and *P. typhoides* × *P. orientale* (1970). The present communication reports the evidence of affinities of these two basic sets at intraspecific level in *P. pedicellatum* Trin.

This species mostly shows $2n=36$ chromosomes, but $2n=30$, 48 and 54 chromosomes have also been reported. The parent plant in the present case ($2n=36$) has regular mitosis, but highly irregular meiosis with obligate apomictic mode of reproduction. In one PMC, however, distinct 14 chromosomes in anaphase II (Plate I) were noted, instead of the normal 18 chromosomes. Thus in a species with mainly $X=9$, occurrence of a chromosome number which is a multiple of another group ($X=7$) is a clear indication of the derivation of one from the other.

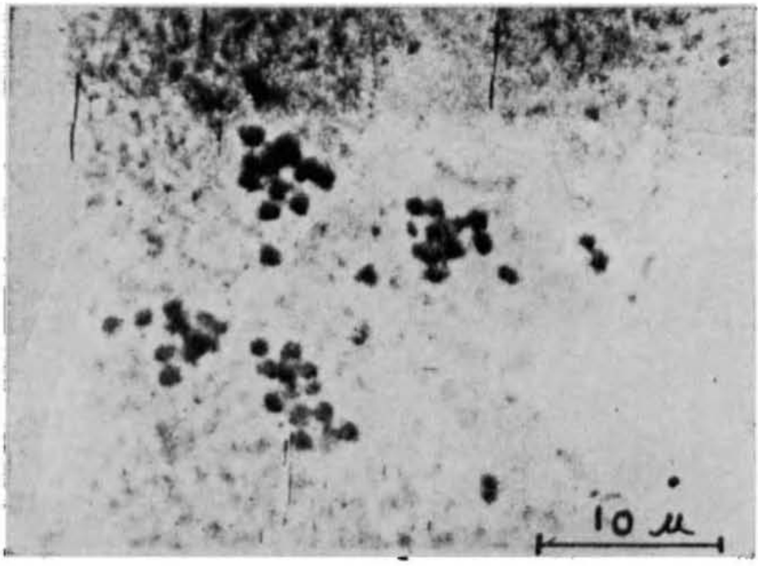

Plate I. Chromosomes in anaphase II

Sharma and De (1956) and Chandola (1959) pointed out the role of aneuploid gamete production in the speciation of this genus. Moreover, during the present course of study, a few ethyl methanesulphonate induced mutants were obtained which resembled closely in morphology to some of the naturally occurring biotypes of *Pennisetum pedicellatum*. Thus it is inferred that in this species the various biotypes might have been the result of the development of aneuploid gametes, a few single

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gene mutations and other chromosomal structural changes, which are in turn being buffered by the apomictic mode of reproduction.

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A NEW SPECIES AND NOTES ON THE GENUS *PORPAX* LINDL. IN INDIA

The genus *Porpax* is closely allied to the genus *Eria* but it is quite distinct by its habit with curious, flattened, 2-leaved, reticulate pseudobulbs and connate sepals forming a 2-3-lipped sepaline-tube. Though Lindley (1845) described the pseudobulbs are clothed with reticulate sheaths but it is not always so; some one with a set of fibres only *viz. Porpax meirax*, some with pseudo or loosely reticulation *viz. P. fibuliformis, P. jerdoniana* and *P. gigantea*.

So far the distribution is concerned this genus is restricted to Mainland Asia *viz.* India, Bhutan, Sri Lanka, Malaya, Thailand, Loas and Burma. At present this genus consists of about 10 species of which 5 species occur in India. Amongst the Indian species *P. reticulata* and *P. jerdoniana* are known from Southern peninsula and *P. meirax* and *P. fibuliformis* were known only from Sikkim. However, *P. meirax* and *P. gigantea* spec. nov. are now found to be occured in Meghalaya

Porpax Lindl.

Small epiphytes with much depressed subdiscoid pseudobulbs, clothed with radiating fibres, finely appressed and loosely reticulate sheaths. Leaves two, membranous, caducous. Flowers one to three, pedicelled or subsessile on the apex or from the sides of the pseudobulbs. Sepals connate partly or into tube; lateral sepals oblique at the base

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